UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/801,896	03/16/2004	Rajesh K. Balan	YOR920040010US1	3383

48813   7590   06/15/2009
LAW OFFICE OF IDO TUCHMAN (YOR)
ECM #72212
PO Box 4668
New York, NY 10163-4668

EXAMINER
CLOUD, JOIYA M

ART UNIT	PAPER NUMBER
2444	

NOTIFICATION DATE	DELIVERY MODE
06/15/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

pair@tuchmanlaw.com

	Application No.	**Applicant(s)**
	10/801,896	BALAN ET AL.
Office Action Summary	**Examiner**	**Art Unit**	
	Joiya M. Cloud	2444	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>19 February 2009</u>.

2a) ☒ This action is **FINAL**.   2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>1-12 and 33-52</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) <u>1-12 and 33-52</u> is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All   b) ☐ Some * c) ☐ None of:

    1. ☐ Certified copies of the priority documents have been received.

    2. ☐ Certified copies of the priority documents have been received in Application No. _____.

    3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

This action is responsive to the communication filed 02/19/2009. Claims 1-12 and 33-52

are PENDING. Applicant's arguments have been carefully considered, but are not persuasive.

Response to Arguments

A)   The Dritschler reference is disqualified as prior art for the following reason:

...Applicants submits that the Dritschler reference was applied by the Examiner as prior art under

35 U.S.C. 103 via 35 U.S.C. 102(e).

As to the above argument A), Examiner respectfully disagrees. Examiner suggests Applicant

read the sections of MPEP regarding 35 U.S.C. 103(c) stating,

"To overcome a rejection under 35 U.S.C . 103(a) based upon subject matter which qualifies as

prior art under only one or more of 35 U.S.C. 102(e), (f) or (g) via 35 U.S.C . 103(c)(2), the applicant

must provide a statement to the effect that the prior art and the claimed invention were made by or on the

behalf of parties to a joint research agreement, within the meaning of 35 U.S.C . 103(c)(3) and paragraph

(c)(4)(ii) of this section, that was in effect on or before the date the claimed invention was made, and that

the claimed invention was made as a result of activities undertaken within the scope of the joint research

agreement."

The Dritschler reference clearly applies as a 35 U.S.C. 102(b), as the prior art has a

publication date of January 2, 2003. Therefore, prior art rejections under Dritschler are

maintained.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 41-52 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The claims may be directed towards software only, which is functional descriptive material, which per se is not statutory.

Exemplary claim 41 is directed toward "a computer program product embodied in a tangible media…" Applicant's instant specification states, "various tangible media know in the art, including, but not limited to, read only memory, random access memory, data streams, optical and magnetic memory, and the like."

A computer program product embodied in a tangible media including data streams and not implemented on a machine readable medium, is software only. Software per se is non statutory.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dritschler et al. **(U.S. Publication No. 2003/0005028 A1, hereinafter Davis)** in view of **Davis (US Patent No. 7, 254,634).**

As per claim 1, Dritschler teaches method for executing a network-based distributed application, the method comprising: executing application instances of the distributed application by application containers **(paragraph [0029], lines 7-12, where application containers (address spaces) execute the one or more server instances);** calculating quality of service metrics for each application instance by the application containers **(paragraph [0018], lines 9-15, paragraphs [0028], lines 11-15, [0030], [0034], and [0038], where quality of service metrics are the performance criteria and goals);** and distributing application workload among the application instances using a decentralized workload management layer based on the quality of service metrics **(Abstract, paragraph [0028] and [0029]).**

However, Dritschler does not explicitly teach each application container sharing state information about its application instance with other application containers.

Davis teaches each application container sharing state information about its application instance with other application containers **(col. 2, lines 42-46, col. 8, lines 42-49, where runtime containers within a content directory delivery network share session state information with each other).**

As per claim 2, Dritschler-Davis teaches the method further comprising associating application containers with autonomous workload management elements, the workload

management elements forming the workload management layer **(Dritschler: paragraph [0028])**.

As per claim 3, Dritschler-Davis teaches the method further comprising coordinating the application instances through a coordination mechanism coupled to the workload management layer **(Dritschler: paragraph [0029])**.

As per claim 4, Drtischler-Davis teaches the method wherein distributing application workload among the application instances further comprises reducing workload assigned to an application container when the quality of service metrics reach an overload threshold value **(Dritschler: paragraphs [0037]-[0038])**.

As per claim 5, Dritschler-Davis teaches the method wherein reducing workload assigned to the application container further comprises: examining an encoding of work unit groups provided by each application instance **(Dritschler: paragraph [0032])**; splitting a currently assigned work unit group into smaller work unit groups **(Dritschler: paragraph [0037]-[0038] and [0043])**; assigning at least one of the smaller work unit groups to other application containers **(Dritschler: paragraph [0037]-[0038])**; and utilizing a coordination mechanism to update changes in workload assignments to the other application containers

As per claim 6, Drtischler-Davis teaches the method wherein distributing application workload among the application instances further comprises increasing workload assigned to an application container when the quality of service metrics reach an under-load threshold value **(Dritschler: paragraph [0040]-[0042], and [0044])**.

As per claim 7, Drtischler-Davis teaches the method wherein increasing workload assigned to the application container further comprises: examining an encoding of work unit groups provided by each application instance **(Dritschler: paragraph [0038])**; combining at least two currently assigned work unit groups into a larger work unit group **(Drtischler: paragraph [0038])**; assigning the larger work unit group to the application container **(Dritschler: paragraph [0038])**; and utilizing a coordination mechanism to update changes in workload assignments to the other application containers **(Dritschler: paragraph [0038])**.

As per claim 8, Drtischler-Davis teaches the method further comprising dividing workload assigned to a single application instance into at least two application instances if a quality of service metric reaches an overload threshold **(Dritschler: paragraph [0044])**.

As per claim 9, Drtischler-Davis teaches the method further comprising: dividing a total workload performed by the distributed application among the application instances **(Dritschler: paragraph [0043]-[0045])**; assigning each of the application instances a fractional workload **(Drtischler: paragraph [0043]-[0045])**; and filtering client requests at the application containers based on the fractional workload assigned to the application instances **(Dritschler: paragraph [0043]-[0045])**.

As per claim 10, Drtischler-Davis teaches the method further comprising migrating a client from a first application container to a second application container if workload from the client is not assigned to the application instance executing at the first application container **(Drtischler: paragraph [0028])**.

As per claim 11, Drtischler-Davis teaches the method further comprising labeling client requests such that application containers can determine if the requests belong to the fractional workload assigned to the application instances **(Drtischler: paragraphs [0028] and [0032]).**

As per claim 12, Drtischler-Davis teaches the method further comprising receiving the application instances from application loaders **(Drtischler: paragraphs [0028] and [0032]).**

As per claim 33, claim 33 recites similar limitations as claim 1 and thus is rejected using similar rationale.

As per claims 34, Dritschler-Davis teaches wherein each workload management element is further configured to autonomously increase and decrease the assigned workload to its associated application container **(paragraph [0036]-[0038]).**

As per claim 35, Dritschler-Davis teaches wherein each workload management element is further configured to combine the assigned workload of two or more application containers if the assigned workload to its associated application container is to be decreased **(paragraph [0036]-[0038]).**

As per claim 36, Dritschler-Davis teaches wherein each workload management element is further configured to combine the assigned workload of two or more application containers if the assigned workload to its associated application container is to be increased **(paragraph [0036]-[0038]).**

As per claim 37, Dritschler-Davis teaches wherein each application container is further configured to pass inbound packets to executing application instances when the inbound packets

to executing application instances when the inbound packets belong to its assigned workload, and to pass inbound packets to its associated workload management element when the inbound packets do not belong to its assigned workload **(paragraph [0028] and [0029])**.

As per claim 38, Dritschler-Davis teaches further comprising workload tags coupled to data packets of application containers, the workload tags configured to allow application containers to identify whether the inbound packets belong to its assigned workload **(paragraph [0028] and [0029])**.

As per claim 39, Dritschler-Davis teaches further comprising a coordination mechanism configured to allow workload management elements to locate each other and determine the current work assignments of each application container **(paragraph [0028] and [0029])**.

As per claim 40, Dritschler-Davis teaches further comprising an application loader configured to provide executable application code to application containers **(paragraph [0018])**.

As per claims 41-52, claims 41-52 are substantially the same as claims 1-12, but in computer program product form rather than method form. Therefore, the rejection for claims 1-12 applies equally as well in claims 41-52.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the mailing

date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner

should be directed to Joiya Cloud whose telephone number is 571-270-1146. The examiner

can normally be reached Monday to Friday from on 7:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor,

William Vaughn can be reached on 571-272-3922. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-3922.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published

applications may be obtained from either Private PAIR or Public PAIR. Status information

for unpublished applications is available through Private PAIR only. For more information

about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access

to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197

(toll-free).

JMC

Art Unit 2444   **June 5, 2009**

/William C. Vaughn, Jr./

Supervisory Patent Examiner, Art Unit 2444